

Student Research Projects

The Department of Biology offers an opportunity to complete an undergraduate research experience in the B.S. degree in biology. The department has been at the front in a national trend to provide such experiences for undergraduate students. The purpose of the undergraduate research experience is to better develop critical thinking and those intellectual and technical skills associated with planning, executing, and communicating research discoveries. If you have questions regarding undergraduate research contact a [biology professor](#). If you need ideas, inspiration, or information on which professor to contact, see the [Ongoing/Recently Completed Research Projects](#) section below.

Courses

BIOL 4392 (Undergraduate Research)

Students in this course will work with their mentor and second reader to develop a written research proposal that reviews the literature and sets out a scope of work for testing a hypothesis. Students, in collaboration with their mentor, then do the work set forth in their proposal including data analysis and interpretation. BIOL 4392 is a 2 credit-hour course and a minimum of 25 hours of work is expected. If work is not completed in one semester, students will receive an IP (in progress) grade and will develop a plan for completion with their mentor. IP grades will convert to an F if the work is not complete by the end of the next semester.

BIOL 4393 (Research Presentation)

Students in this course present the findings of their research through an oral presentation on campus or at a research conference and a written report. Arrangements to present must be made with the undergraduate research mentor and the coordinator of undergraduate research. Students may not enroll in BIOL 4393 until they have completed BIOL 4392. BIOL 4393 is not typically offered in the summer. If work is not completed in one semester, students will receive an IP (in progress) grade and will develop a plan for completion with their mentor. IP grades will convert to an F if the work is not complete by the end of the next semester.

Ongoing/Recently Completed Research Projects

Below is a list of ongoing or recently completed research projects and the mentors for the projects. This should serve as a potential reference for any students looking into pursuing undergraduate research.

Project Name	Faculty Mentor(s)
Analysis of Intestinal Helminths of Largemouth Bass in West central Georgia	Hendricks and Klar
The Effects of Mode Delivery Between Gel and Foam Hand Sanitizer on bacteria	Davis and Ruehl
Association of Z-DNA Concentrations and B- to Z-DNA Transitionsites with Human Cancerous Cells and Malignancy Levels	Frazier and Barone
Gopher Tortoise Diet Determination, Using Plant Barcodes	Ballenger and Burgess
NGF Effects on Cardiomyocytes after Hypoxia	Klar and Hughes
Effect of Insecticides on Crayfish Nerve Activity	Hughes and J. Newbrey

Project Name	Faculty Mentor(s)
Link Between Female Bluebird Health and WBC Counts	J. Newbrey and Hughes
Histological Comparison of Pickling Processes in Cucumbers	Klar and Ballenger
Effects of Vitamin A Deficiency on Eye Development in Zebrafish	Schwartz and Klar
The Effect of Disturbance on Vegetative Community Structure and Diversity: A Comparative Survey	Ballenger and Schwartz
Bacteria and Fungi Living in Orchid Roots	Davis and Ballenger
Noise Pollution Affecting Blue Jay Nesting Sites	J. Newbrey and Holt
Inhibitory Effects of Lemon, Honey, Licorice, and Tumeric Towards <i>Streptococcus pyogenes</i>	King and Davis
Effects of <i>Moringa oleifera</i> Aqueous Extract on the Proliferation of Breast cancer Cells	Frazier and Zuiderveen